

## Environmental Protection Agency

## § 87.21

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(1) Annex 16 to the Convention on International Civil Aviation, Environmental Protection, Volume II—Aircraft Engine Emissions, Third Edition, July 2008 (ICAO Annex 16). IBR approved for §§ 87.1, 87.42(c), and 87.60(a) and (b).

(2) [Reserved]

[77 FR 36381, June 18, 2012]

### Subpart B—Engine Fuel Venting Emissions (New and In-Use Aircraft Gas Turbine Engines)

#### § 87.10 Applicability.

(a) The provisions of this subpart are applicable to all new aircraft gas turbines of classes T3, T8, TSS and TF equal to or greater than 36 kilonewton rated output, manufactured on or after January 1, 1974, and to all in-use aircraft gas turbine engines of classes T3, T8, TSS and TF equal to or greater than 36 kilonewton rated output manufactured after February 1, 1974.

(b) The provisions of this subpart are also applicable to all new aircraft gas turbines of class TF less than 36 kilonewton rated output and class TP manufactured on or after January 1, 1975 and to all in-use aircraft gas turbines of class TF less than 36 kilonewton rated output and class TP manufactured after January 1, 1975.

[49 FR 41002, Oct. 18, 1984]

#### § 87.11 Standard for fuel venting emissions.

(a) No fuel venting emissions shall be discharged into the atmosphere from any new or in-use aircraft gas turbine engine subject to the subpart. This paragraph is directed at the elimination of intentional discharge to the atmosphere of fuel drained from fuel nozzle manifolds after engines are shut down and does not apply to normal fuel seepage from shaft seals, joints, and fittings.

(b) Conformity with the standard set forth in paragraph (a) of this section shall be determined by inspection of

the method designed to eliminate these emissions.

### Subpart C—Exhaust Emissions (New Aircraft Gas Turbine Engines)

#### § 87.20 Applicability.

The provisions of this subpart are applicable to all aircraft gas turbine engines of the classes specified beginning on the dates specified.

#### § 87.21 Exhaust emission standards for Tier 4 and earlier engines.

This section describes the emission standards that apply for Tier 4 and earlier engines that apply for aircraft engines manufactured before July 18, 2012 and certain engines exempted under § 87.50. Note that the tier of standards identified for an engine relates to NO<sub>x</sub> emissions and that the specified standards for HC, CO, and smoke emissions apply independent of the changes to the NO<sub>x</sub> emission standards.

(a) Exhaust emissions of smoke from each new aircraft gas turbine engine of class T8 manufactured on or after February 1, 1974, shall not exceed: Smoke number of 30.

(b) Exhaust emissions of smoke from each new aircraft gas turbine engine of class TF and of rated output of 129 kilonewtons thrust or greater, manufactured on or after January 1, 1976, shall not exceed:

$SN=83.6(r_0)^{-0.274}$  ( $r_0$  is in kilonewtons).

(c) Exhaust emission of smoke from each new aircraft gas turbine engine of class T3 manufactured on or after January 1, 1978, shall not exceed: Smoke number of 25.

(d) Gaseous exhaust emissions from each new commercial aircraft gas turbine engine shall not exceed:

(1) Classes TF, T3, T8 engines greater than 26.7 kilonewtons rated output:

(i) Engines manufactured on or after January 1, 1984:

Hydrocarbons: 19.6 grams/kilonewton rO.

(ii) Engines manufactured on or after July 7, 1997.

Carbon Monoxide: 118 grams/kilonewton rO.